

THOROUGHFARE ORDINANCE— PLANNING CONSIDERATIONS

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HISTORY & DEVELOPMENT OF STREET GRIDIRON PATTERN

World population in the year 33 B.C. is estimated to have stood at 200-300 million people. Sixteen hundred years later it had grown to only 500 million. In the period 1650-1850 the population doubled to one billion. In the decade 1850-1860 it tripled to three billion. In the next 40 years it will more than double again to seven billion people.

For the statisticians, this is a growth of 2233.3 percent for the 2033 years.

But, more importantly, 85 percent of the growth (six billion people) has occurred or will occur in the last 150 years of the time period—over three billion in the next 25 years.

All of this growth is occurring when technology has brought about a standard of living exerting pressures and demands upon the environment, energy sources, and our natural resources.

The task of the urban transportation system, stated in its simplest terms, is to move people and goods from place to place. This task is defined by the location of the terminal points as well as the channels of movement. For this reason, one of the problems of urban transportation is of city layout and planning, as well as one of transportation technology.

Historically, the physical pattern of the city usually reflected the ways and institutions of its inhabitants.

At the time of settlement of many cities and towns throughout Indiana, it was considered good practice to plat areas using the gridiron pattern. Streets of the same width dispersed horse-drawn traffic in a north-south, east-west direction.

Primary to this method is the governmental land survey system that was established in Indiana. Also important was the simple association of man to the rectilinear form.

STREET GRIDIRON PATTERN NO LONGER FUNCTIONAL FOR CITIES

The result of using automobiles on the grid system of streets was to introduce noise, dust, and other hazards of rapidly moving vehicles, into quiet residential neighborhoods.

Since an automobile cannot be stopped quickly as compared with horse-drawn and pedestrian movement, the large number of grade intersections resulted in traffic congestion and accidents. The typical grid form of platting also devoted approximately 30 percent of the total land area to r/w .

Oftentimes in the past, the only step towards a functional classification of streets has been that taken by local citizens and the users of the facility. The path of least resistance between focal points such as the central business district and the places of residence have become the major thoroughfares of the city. Little or no regard has been afforded adjacent land uses. Major streets have attained their status by the most used method which, in some cases, may not be all that bad. However, some of the current high-volume streets are grossly under standards in regard to r/w and pavement width.

Nowhere is the lag between urban design and requirements of the contemporary city more apparent than in the development of a transportation system on a grid pattern. The grid pattern provided direct movements in four directions at street intersections located 300-400 feet apart, permitting every street to become a cross-town thoroughfare. This phenomenon was complicated by the increased area needed to both move and park automobiles versus horse-drawn vehicles and pedestrians.

The planners of the British new towns recognized the problem and proposed altered street plans that were later modified and expanded in the United States.

Clarence Stein and Henry Wright first experimented with the conversion of small blocks in New York City. These early efforts proposed the removal of cross streets within the grids to create large super blocks. Traffic was planned to flow around the perimeter and garden courts and play areas were located in the interior of the housing area.

A modern application of this approach on a rather limited scale may be found in Oak Park, Illinois, a suburb of Chicago. The city is rich in Frank Lloyd Wright architecture—wide, tree-lined streets, and large, old homes. Part of the city has been designated an historical district.

Attempts by local property owners have been made to discourage cross traffic. The short leg of the grid pattern has been closed to through traffic thus resulting in many cul-de-sac arrangements. The resultant is the use of designated streets that provide access to the major thoroughfares on the perimeter of the neighborhoods.

Worth mentioning is the complete absence of any traffic control devices on many interior intersections. You merely approach the crossing, slow down, and proceed.

It's rumored that the vehicle on the right has the right-of-way, but traveling at 30 mph it's oftentimes difficult to differentiate right from left.

Finally, as many of you are aware, the neighborhood unit concept with its curvilinear street pattern has set a standard for subdivision design.

Minor streets located within the interior of the area serve arterial streets on the perimeter, thus maintaining a low-key traffic volume. Rights-of-way vary with design but 20 percent of the area dedicated to r/w is typical.

So here we are in a bicentennial year, in the throes of an energy crisis, population growth, decentralization, high taxes, red tape, environmental impact statements, a city form antiquated by today's mobile society, and the voting public voicing their concern for travel delays, narrow streets, one-way pairs and the 55 mph speed limit.

What do we do?

STREET PLANNING SHOULD BE A FUNCTION OF LAND USE

The functional plan for the city may be thought of as a group of neighborhood units clustered around a central business district, with industrial areas, shopping centers, recreation areas, and public places interspersed throughout the urban area at convenient locations. Thus the city may be thought of as a grouping of land uses connected by a network of transportation systems.

The primary emphasis on a grid pattern is the arrangement of streets. After streets were laid out, the land-use pattern is determined. Under the functional pattern, the best arrangement of land uses is evolved. The street system is then designed and/or classified to serve those land uses. Thus traffic remains a function of land use, and planning for streets is predicated on the requirements of different functions within the city.

This is one of the modern philosophies behind thoroughfare plans and ordinances.

Transportation goals and policies should be based upon these development objectives, not on mobility as a sole end. The best scheme, as some argue, is that solution that provides the maximum social benefit at the least social cost.

COORDINATION OF VARIOUS AGENCIES NEEDED FOR MAKING TRANSPORTATION PLANS, CODES, ORDINANCES

The lack of good transportation planning effectuated through a plan and/or ordinance coordinated with other regulatory devices used by the city results in the absence of a total planning environment.

This is not to say that zoning and subdivision control ordinances are diverse from thoroughfare ordinances. Rather, one makes an effective tool of the other.

There are setbacks. In the absence of a thoroughfare, plan and ordinance become part of each classification within the zoning ordinance. Setbacks from the r/w should, by logic, be a function directly related to both the volume of usage associated with the proposed land use and the needed type of traffic facility serving it.

Therefore, coordination between both planners and engineers in the preparation and administration of codes and ordinances is very important.

On a day-to-day basis, zoning and development issues will arise that require input and technical assistance from both planners and engineers alike.

RESPONSIBILITY OF FINANCING AND CONSTRUCTION OF NEW CITY TRANSPORTATION FACILITIES

The question of responsibility regarding the financing and construction of new transportation facilities within the jurisdiction of a city needs to be discussed.

On the one hand you find developers, realtors, lending institutions, engineers, architects, and planners concerned about cash flow, prime rates, bottom lines, inflated land costs, marketing studies, and building permits.

On the other side of the street is the city administration and technical staff concerned about public safety and welfare, curb cuts, sidewalks,

curve radii, right-of-way, pavement widths, and the voting public for which they work.

Unfortunately, what oftentimes happens is mutual distrust brought about by each one sincerely wanting to do his particular thing.

Valid arguments have been presented by both sides as to who pays for what.

The city, justifiably concerned about implementation of the master plan, thoroughfare plan, etc., may require dedication of additional r/w and pavement widths. The logic behind this is associated with welfare of the city and commuting public in general, not individual developments specifically.

Developers cringe at this requirement. If very little preliminary discussion has transpired regarding city policies, the delay to revise plans, and building arrangements, parking layouts and the like can be a time-consuming affair.

The direct loss of land seems to be secondary. More concern is voiced by private enterprise regarding the fact that someone is telling me what to do and costing me additional fees and interest money in the process.

The problem here seems to be one more of communications than arguments over r/w and pavement requirements.

The first question a developer asks regarding a tract of land is usually "Is it zoned for my purposes?" Overzealous realtors and sellers of land simply say "yes" to this question and a land deal transpires.

Unfortunately, the tract in question may have other city codes and ordinances effecting it that are as important or more so than zoning.

One of them is naturally the thoroughfare ordinance.

The city should not be in the business of subsidizing private enterprise. On the other hand, developers argue they should not be made to pay for improvements used by the entire city.

POLICIES REGARDING COST SHARING OF TRANSPORTATION FACILITIES

There are as many policies regarding cost sharing of transportation facilities as there are cities.

Among these are:

1. Requirements of r/w dedication with the city paying for construction of the facility.

2. The developer dedicating and paying for both r/w and improvements.
3. A combination of both where the developer dedicates r/w and pays for a portion of the additional requirement.

Of major importance to the city is both its budgeting policies to pay for its share along with the current tax structure and rate.

One alternative joint participation could have as its basis is the density and type of development and its proposed economic and social impact on the city.

1. A low-density residential development planned to contain a high number of children could inflict a burden upon an already crowded school system.
2. On the other hand, high-density elderly housing would not have the same impact but, in terms of mass transit systems, could be a problem.

It is possible to view financial participation of facilities in terms of tax revenue produced in correlation with overall economic/social impact upon the city.

The more revenue and less impact—possibly the more participation by the city.

USE OF GREEN SPACE, PEDESTRIAN PATHS AND BIKEWAYS

Innovative designs utilizing green space, pedestrian paths, and bike-ways should be viewed in light of the goals and policies of the city.

Bike paths, so important in today's society, should be encouraged. Inner-city systems should be promoted and made a part of public policy.

But, to reiterate, blanket approval of all types of developments without thorough regard to the economic and social impact upon the neighborhood specifically, and the city in general, should be avoided.

Oftentimes the immediate returns to the city are overshadowed by future liabilities and burdens.

CONCLUSION

I would like to finish with an example that no matter how much you play, believing you consider all points, someone can always uncover the obvious.

Sidewalks, so long a bone of contention with developers, are still an important safety element.

One of the best arguments I have ever heard regarding sidewalks involved a planned unit development with a park facility included. The question of sidewalks arose and the developer stated that they wouldn't be needed, kids would play at the park, not in the streets.

The mayor inquired, quite honestly, of the developer, how the kids would get to the park.

The developer answered, "walk in the streets, I suppose."